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Taxonomic status and nomenclature of *Cephalotaxus lanceolata* (Cephalotaxaceae)

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Abstract

The nomenclature of *Cephalotaxus lanceolata* is controversial. After a thorough literature investigation, the nomenclatural problems have been resolved. This name was published in W. C. Cheng et al. (1975) and, although ascribed to "K. M. Feng", there is no suggestion that the descriptive material in the protologue was provided by K. M. Feng. Under Art. 46.5 of the ICN, this name should be attributed to K. M. Feng ex W. C. Cheng et al. but not to K. M. Feng alone. It has been claimed that the name is an illegitimate later homonym of one published by Beissner in 1901, but Beissner never accepted this name in any of his publications and so, under Art. 36.1, he did not validly publish an earlier homonym. *Cephalotaxus lanceolatus* was first validly published in W. C. Cheng et al. (1975).

Keywords

Cephalotaxaceae, *Cephalotaxus lanceolata*, gymnosperms, nomenclature, the Shenzen Code

The name *Cephalotaxus lanceolata* was described in Cheng et al. (1975: 86) and ascribed to K. M. Feng, but there was no indication in that publication that the diagnosis of the new species was provided by K. M. Feng. Likewise, in Cheng et al. (1978), "Flora Reipublicae Popularis Sinicae", no author contribution by K. M. Feng was acknowledged. Consequently, under Art. 46.5 of the ICN (Turland et al. 2018), this name should be attributed to the authors of the publication and cited as "K. M. Feng ex W. C. Cheng et al." or just "W. C. Cheng et al.". As a result, the attribution of this name to K. M. Feng by Cheng (1983), Farjon (2010) and Lang et al. (2013a, 2013b) is incorrect.

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Lang et al. (2013a, 2013b) considered *Cephalotaxus lanceolata* W. C. Cheng et al. to be an illegitimate later homonym because they thought that there was an earlier homonym, *C. lanceolata* Beissner (1901a). Therefore, they proposed the replacement name *C. talonensis* W. C. Cheng & L. K. Fu ex S. G. Lu & X. D. Lang taking up a manuscript name that W. C. Cheng & L. K. Fu and/or K. M. Feng had used on the original specimen. If Lang et al.'s claim was correct, then a replaced name would indeed be required.

I conducted a new investigation on the publications of Beissner (1901a, 1901b, 1909) and found that Beissner did not accept *C. lanceolata* as the name of a species in any of the three publications and so it is not validly published in any of them (Art. 36.1). Beissner (1909) treated *C. lanceolata* as a synonym of "*Cephalotaxus fortunei robusta* hort.", so clearly not accepting the name and the same is the case in the two 1901 publications: Beissner (1901b) wrote: "Nous devons dès lors regarder le *C. lanceolata* hort. comme une forme vigoureuse, multipliée par greffe, de *C. fortunei* Hook." Translated to English as: I must therefore look at *C. lanceolata* hort. as a vigorous, graft-propagated form of *C. fortunei* Hook. Beissner (1901a) wrote: "Damit erledigt sich dann auch der zweite Punkt, dass *C. lanceolata* hört, nicht mit *C. griffithii* gleich ist, sondern als besonders langblättrige, üppige, durch Veredelung fixierte Form zu *C. fortunei* Hook, gehören dürfte." This suggests that *C. lanceolata* hort. is not the same as *C. griffithii*, but should belong to *C. fortunei* Hook. as a particularly long-leaved, luxuriant form fixed by grafting.

As a conclusion, I consider that *C. lanceolata* should be ascribed to K. M. Feng ex W. C. Cheng et al. and that *C. lanceolata* K. M. Feng ex W. C. Cheng et al. is a legitimate name.

The taxonomic status of *C. lanceolata* has been in debate. The name was accepted in Cheng et al. (1978), Cheng (1983), Fu (1984), Huo (1986), Farjon (1998, 2010, 2017) and Fu et al. (1999) as that of a distinct species, but Silba (1990) treated it as a variety: *C. fortunei* var. *lanceolata* (K. M. Feng ex W. C. Cheng et al.) Silba, which is also accepted by Eckenwalder (2009). Tripp (1995) considered *C. lanceolata* as a separate species from *C. griffithii* Hook. f. but Bisht et al. (2021), who thought the name illegitimate, treated it as a synonym of *C. griffithii*. Wang et al. (2022) conducted DNA barcoding research by sampling Chinese materials, and concluded that *C. lanceolata* represented a separate species lineage. Here I follow Tripp (1995), Farjon (1998, 2010, 2017), Fu et al. (1999) and Wang et al. (2022) and accept *C. lanceolata* as a separate species.

Treatment

Cephalotaxus lanceolata **K. M. Feng ex W. C. Cheng et al., Acta Phytotax. Sin. 13(4): 86 (1975)**

Homotypic synonym. *Cephalotaxus fortunei* var. *lanceolata* (W. C. Cheng et al.) Silba, Phytologia 68(1): 27 (1990); *Cephalotaxus talonensis* W. C. Cheng & K. M. Feng ex S. G. Lu & X. D. Lang, Bull. Bot. Res., Harbin 33(1): 5 (2013), nom. illeg.

Type. China (中国), Yunnan (云南), Gongshan Co. (贡山县), west of Dulong River, alt. 1900 m, in broad-leaved forests nearby the river, 18 Nov. 1959, *K. M. Feng (冯国楣) 24347* (holotype: PE00206970, Fig. 1).

Figure 1. Holotype of *Cephalotaxus lanceolata* K. M. Feng ex W. C. Cheng et al. (PE00206970).

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